Pranjal Sahu

Contact Information

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Research Interests

Deep Learning, Computer Vision, Computer Graphics and its application in Biomedical Imaging such as De-noising, Bio-markers detection, Volume reconstruction.

Education

Stony Brook University, 3.87

Ph.D. Student in Computer Science (2016-2021 expected)

- Dissertation Topic: Deep Learning in Biomedical Imaging
- Advisor: Dr. Hong Qin

Indian Institute of Technology Kharagpur, 8.35

B.Tech.(Hons) in Computer Science, 2013

- Thesis Topic: Object tracking in video and its application in Healthcare.
- Advisor: Dr. A.K. Majumdar

Publications

Pranjal Sahu, Hailiang Huang, Wei Zhao, and Hong Qin. *Using virtual digital breast tomosynthesis for de-noising of low-dose projection images,* International Symopsium on Biomedical Imaging, ISBI 2019.

Pranjal Sahu, Dantong Yu, Mallesham Dasari, Fei Hou and Hong Qin. *A Lightweight Multi-section CNN for Lung Nodule Classification and Malignancy Estimation,* IEEE Journal of Biomedical and Health Informatics, J-BHI, 2018.

Pranjal Sahu, Dantong Yu and Hong Qin. *Apply lightweight deep learning on internet of things for low-cost and easy-to-access skin cancer detection,* Medical Imaging: Imaging Informatics for Healthcare, Research, and Applications, International Society for Optics and Photonics, SPIE, 2018 **(Best Demo Award)**.

Pranjal Sahu, Dantong Yu and Kevin Yager, Mallesham Dasari and Hong Qin. *In-Operando Tracking and Prediction of Transition in Material System using LSTM,* International Workshop on Autonomous Infrastructure for Science, HPDC, 2018.

Na Song, Daniela Craciun et al. *Protein Shape Retrieval,* Eurographics Workshop on 3D Object Retrieval, 3DOR 2017.

Scientific Research Experience

2018–current 3D CNN regularized iterative reconstruction for DBT.
Advisor: Dr. Wei Zhao, Department of Radiology,
School of Medicine, Stony Brook University.

2017–2018 Autonomous Infrastructure for Transition Prediction.
Advisor: Dr. Dantong Yu, Computational Science Initiative,
Brookhaven National Laboratory.

Work Experience

2015-2016	Software Developer	Oyo Rooms, Gurgaon, India
2015-2015	Data Scientist	HT Media, Gurgaon, India
2013-2015	Software Engineer	Samsung Research Institute, Noida, India

Teaching Experience

Spring	2017	Teaching Assistant, Computer Graphics (Undergraduate)
Spring	2017	Teaching Assistant, Medical Imaging (Undergraduate)

Honors and Awards

2018	Best Demo Award in SPIE Medical Imaging Conference
2016–2017	Computer Science Chairman Fellowship, Stony Brook University
2007	Mahatma Hansraj merit award in CBSE Board 2006-07
2005	Represented (C.G.) state in National Children Science Congress

Graduate Coursework

- ❑ Computer Graphics
- ❑ Computer Vision
- ❑ Computer Networks
- ❑ Convex Optimization
- ❑ Artificial Intelligence
- ❑ Analysis of Algorithms
- ❑ Asynchronous Systems

Relevant Skills

Languages:	Python, C++, C, Matlab
Deep Learning:	Tensorflow, Keras
Libraries:	Android SDK, OpenCV, OpenGL, nltk
IDEs:	Eclipse, Android Studio, Jupyter Notebook

Open Source

Contributed to open-source reconstruction tool TIGRE.

Academic Projects

Stochastic Quasi-Newton Optimization for Deep Learning, Convex Optimization

Byzantine Chain Replication, Asynchronous Systems, (DistAlgo, Python)

Automatic construction of 3D models from Architectural Line drawings, Computer Graphics (OpenGL, C++).

Facial Action Unit Detection, Computer Vision, (Tensorflow).

Identification of user actions on Android apps, Computer Networks, (Android)

Process Knowledge extraction, Artificial Intelligence, (Python)

Object Tracking in Video and its application in Healthcare, B.Tech Thesis, (OpenCV)

Point Cloud Triangulation, Computer Graphics, (OpenGL, C++)

Extra curriculars

- ❑ Silver medal in Inter Hall Thermocol and clay modelling at IIT Kharagpur
- ❑ Member of Azad Hall of Residence Fine Arts team at IIT Kharagpur